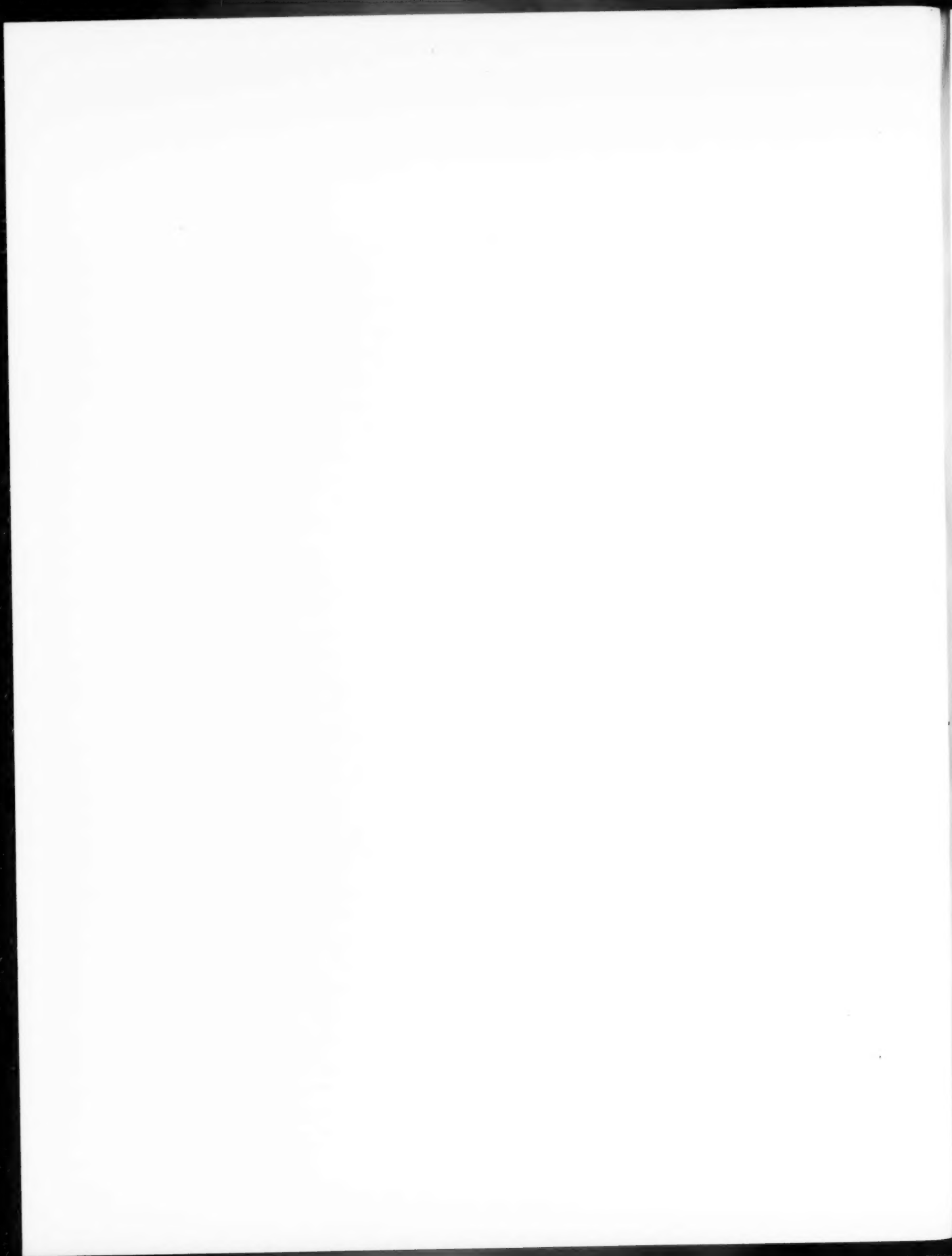


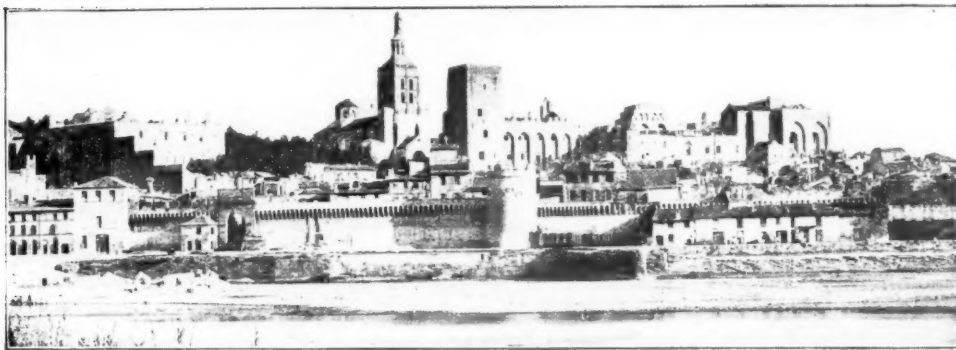


It is with deep sorrow that we have to record the death of Her Most Gracious Majesty Queen Victoria, which took place on Tuesday, 22nd January 1901.

Her Majesty was Patron of the Royal Institute of British Architects during the whole of her long reign, and from the year 1848 conferred annually the Royal Gold Medal for the promotion of Architecture on the recommendation of the Institute.

The Royal Institute mourns not only, in common with the Empire, the loss of a great Sovereign, but also the loss of a gracious Patron both of the Institute and of the art of Architecture.





DIFFICULTIES AND HINDRANCES IN PRODUCING GOOD MODERN ARCHITECTURE. By J. J. STEVENSON [F.], F.S.A.

Read before the Royal Institute of British Architects, Monday, 21st January 1901.

THE purpose of this Paper is to inquire why it is that so many of the buildings produced at present fail in attaining the correctness and perfection in their architecture which were almost universal in former times; and whether there are any means by which we could again secure the high general level of excellence prevailing during the historical styles of architecture, when, from palaces to cottages, from cathedrals to the smallest churches, the temples and civil buildings of earlier antiquity, were all good after their kind, some better and some worse, but all correct in their own style, free from the mistakes and ignorance which characterise so many modern buildings. Every old town delights us with the interest and charm of its architecture, except where possibly some new building jars like a false note in music; but we do not go out of our way to see new-built towns or modern suburbs which replace the fields and gardens round old ones. We think little of the revived Gothick, or dull Greek, or the classic in painted plaster of the first half of the last century. What will our successors think of the hundreds of cemetery chapels, the churches and chapels in bad Gothick, of the wild attempts to improve the quiet beauty and simple proportions of the old Queen Anne style, the obvious efforts to be original and striking—which are as bad taste in architecture as in dress? The old builders were not greater geniuses than their modern successors, they were not learned and had no weekly building papers to instruct them: why is the result now so unsatisfactory? We have difficulties and hindrances which they had not, and by understanding these we may perhaps see how they might be overcome.

By difficulties I understand the conditions of modern life as compared with former times which we cannot hope to alter and under which we have to work; and by hindrances the laws and regulations which restrict the practice and natural development of building.

Mr. Fergusson, in his useful *History of Architecture*, urges that to get again the general perfection of the old styles we must return to the conditions in which they were produced—when one style only at one time was followed, when there were no architects, because there was no need of them, every builder knowing and practising the style of his country and period as he knew his own language—and that to abolish architects is the best hope for architecture.

That is not a conclusion which will commend itself to this Institute, but we may console ourselves that it is impossible; the clock of time cannot be put back. The social conditions which produced the historical styles of architecture have ceased from this earth, at least in

civilised and progressive nations, and have begun to decay in savage ones. As well hope to return to the time when every province, every village even, had its own costume which had come to it from past ages; when custom, not only in dress but in thought and opinion, ruled the life of every individual in the group. This state of things had many advantages, especially in the sphere of art and good taste; these old national costumes, still lingering in less progressive countries, are much more interesting and artistic than the attempts of modern and enlightened populations to imitate fashionable dress and follow its changes. Similar conditions ruled in other arts. Each workman knew his work, and, all trained the same way, the result was harmonious and correct.

Traditional architecture did not cease with the new life of the Renaissance, and though the mediæval styles lived on, the new architecture soon became a custom and tradition which every workman knew and could carry out without drawings from an architect. It is only in the last two or three generations that architecture has emancipated itself from tradition, that builders and architects, instead of conforming to established custom, have followed their own fancies and have done what was right in their own eyes, every man being a law to himself. Instead of the few whose force of genius broke through tradition and made an advance in the style, each architect and builder now thinks he must be original, and as original genius is scarce so are good buildings.

Bad architecture is far more harmful than bad literature or painting. These we can get out of the way, but in architecture the consolation does not hold that it will be all the same a hundred years hence. Even the mistakes of doctors are forgotten, as the architect replied to the doctor who had been abusing the building the former had designed, "Your failures are all underground!" We cannot bury bad buildings out of sight; successive generations must endure them. Is there any means by which we might be saved from them? They are fully criticised when the architects who designed them are gone; but while they are alive it is considered a breach of professional etiquette to find any fault with them. We reverse the saying, "*De mortuis nil nisi bonum.*" To be any good the criticism should be applied before they are built. Painters consult their friends and ask their criticisms on their work while alteration is yet possible. The criticisms of other architects might supply in some degree the old certainty of perfect work, and the architect, however eminent, might gain light and help.

Professional etiquette may make this impossible in new buildings, but as regards existing national buildings the claim of an architect, or a painter, or lawyer, to alter them as he thinks fit is unwarranted. The restorations of Sir Gilbert Scott have been adversely criticised since his death, sometimes I think unjustly; but it would have been better for his fame and better for the cathedrals he restored if he had had to get the approval of other architects for some things he did to them. This might have prevented Lord Grimthorpe's vulgarisation of St. Alban's, or Sir William Richmond's corrections of Sir Christopher's design, or the architect's idea that a classic cornice should have a handsome gilt railing on the top, and might have saved many an interesting old church from the appalling ignorance of restoring architects, as in scraping the original plaster not only from the outside but also from the interior walls, and even sometimes pointing the joints of rough rubble building with black mortar beside delicate tracery windows.

One reason why new streets are duller and less picturesque than old ones is their being built in absolutely straight lines and all the same width. Some old streets famed for their beauty, as the Grand Canal at Venice, the Lung' Arno at Pisa, or Grey Street in Newcastle-upon-Tyne, owe it not merely to their buildings but to their not being straight. The buildings (though each is rectangular) standing at different angles, a play of light and shadow is produced instead of one monotonous light on their fronts, and each asserts its individuality,

all the more if the buildings are isolated by narrow openings like the small canals of Venice. But we cannot expect to alter this; it would seem affectation to lay out streets in a purposely irregular manner, and such narrow openings the Building Acts forbid, though it would tend to better ventilation to have narrow streets, if short, opening into wider sunlit spaces, thus causing movements of the air.

The chief difficulty for modern architects in producing good architecture is their freedom; they have lost the restraining influence of the old styles which kept ordinary men straight, and think they are bound to be original. Instead of a style developing through a century, there is a succession of fashions. True originality is possible only to those who have a full knowledge of what has been already achieved and have drunk in its spirit.

The best hope for new architecture is a thorough knowledge of the old, not a superficial acquaintance with many different styles. That will no more enable a man to design in them than knowing many languages will enable him to write well in any one of them. The style must be assimilated so that he can think in it and use it as he does his native tongue. Answering the questions in the usual examinations does not make a man an architect; their variety and extent, and a knowledge of different styles, will rather prevent him from designing well in any one. The architect like the poet must be born, not made. As the poet weaves words into verses, so the architect must not only know architectural forms but have the faculty of combining them to realise his conceptions of grand or beautiful buildings.

It might be thought that competitions would secure good architecture by criticism and selection of the best designs, and they have sometimes been the means, as in St. George's Hall at Liverpool and the Scott Monument at Edinburgh, of discovering a great architect who might otherwise have been unknown. When the decision rested with a committee there was a risk that ignorance or favour might determine it, and it was believed that this would be avoided and a building perfect in architecture and in every way secured by appointing an architect of standing either as assessor to advise the promoters or as judge to decide.

But the result has not justified the hope. Even this amended system is discredited. It has by no means uniformly produced great or even satisfactory buildings, and there is now a tendency to abandon it.

The system is unnatural. Before making a design an architect consults with his employers, ascertains their views, advises them how far they are practical and right, then makes his drawings, improving them in consultation with his employers. In a competition he is debarred from all this. He works in the dark; he has to guess what is wanted, and no information the assessor can give in his instructions to the competitors can adequately supply it. Architects whose local standing might have entitled them to be appointed for the work, who possibly know more of the conditions and requirements than the assessor, hesitate to be judged by their drawings alone, in competition with some young unknown architect from a distance who, if he is successful, has no character to maintain in the district. There are instances of disastrous results from this cause.

Sometimes the assessor is one whom architects who know their art may fairly decline to be judged by. The committee select him for qualities they can appreciate—his business capacity, his power of persuasion, or even for his reputation as an assessor or his appointment by the President of this Institute; the competitors may know he does not understand their art, and he may show by his instructions, as has happened, that he is ignorant of the requirements. Being appointed, he draws up the conditions of competition. In these he takes a power of decision more absolute than judges in law cases ever claim; they decide only after hearing what the parties can plead against their opponents' case as well as for their own; they

give the reason for their judgments and thank counsel for the assistance they give them in understanding the case. In what was called Jeddart justice, if the prisoners were hanged first, they were at least tried afterwards; but the assessor hears no pleadings, and gives no reason for his judgment. Might not his proceedings be in some degree assimilated to those which ordinary justice requires in civil cases? The competitors, having studied for months the problems involved, would be able to point out to him how far their plans had solved them, and where their opponents had failed; it is possible that, however fair and able, he may have missed them. Surely common justice requires that they should not be condemned unheard. This might be done by written statements like written pleadings in the Law Courts, referring when necessary to the plans. It would no doubt give the assessor more trouble, but the interests involved, affecting not only money but character and standing, are far greater than in many lawsuits, and he could make his remuneration adequate. It would tend to save much heartburning and sense of injustice. It may be objected that if this were done the assessor would know who the competitors were. Why should he not? Apparently because it is feared that if he did he might be corruptly influenced to give the award to a favourite or friend. But surely this is a libel on his character, and, if he were a rogue and wanted so to cheat, the precaution is futile; for, unless he were singularly deficient in recognising men's work, it enables him to favour his friend without incurring the discredit. It would be more dignified to declare himself incapable of such action by making the decision, knowing who the authors were. It might make him hesitate to award to the same man almost every competition he happened to be in, and prevent his overlooking merits in the plans of architects whose character and reputation and the work they had done are a guarantee that they could be trusted to carry out the work. By refusing to know the competitors, the assessor neglects what is a far more important consideration in the selection of an architect than making competition drawings. Some considerable fiascos have resulted from this cause. The faculty of winning competitions is often not a gift of the best architects. The architect who, when the competition has been decided, will be a trusted adviser with the power of the purse is treated in a competition as if he were a youth up for an examination, and the judge treats himself as if he could not be trusted to be honest. The object of a competition is to select an architect who can best design and carry out the building, and for this there are more important considerations than mark for competition drawings.

The selection of the assessor is the most important factor for the fairness of a competition such as architects who respect themselves could engage in. Why should not the competitors appoint him by their votes? It would give a better guarantee that they could trust him to understand and appreciate their designs, and, if the majority appointed one whom they thought unlikely to do so, to withdraw before they wasted their time and risked their reputation.

There would, I believe, be a better chance of just decision if there was more than one judge, as in important cases in the Law Courts. With the present difference of opinion as to what is good architecture different views of what designs are best may honestly be held; and I have known judges, in determining the merits of designs submitted to them, alter their first opinion as to which was the best on the representation of their colleagues. It might increase the cost of the competition, but that is of small consequence—would rather be a saving—if it resulted in getting the best architect and the best building. It would give more confidence to the competitors that justice would be done them, as, if they elected the judges, there would be some security that their different views of what was good architecture would be represented.

It is a fair question whether a competition should be decided by a judge having

unquestioned power of selecting the architect for the work, or by an assessor who would advise the promoters, giving his reasons for his decisions, which should be disclosed to the competitors, who should have the opportunity of explaining their own plans, in writing, and criticising the others. Absolute power is dangerous; the committee may not feel justified in abandoning all responsibility: in some law cases, civil as well as criminal, a jury, advised by the judge, decides, and they may fairly consider themselves entitled to act in this capacity. I confess I would rather trust them than some architects.

The prize of getting an important building to design is so great that architects are willing to risk labour and money on the chance. But it is mean in committees to take advantage of this. If they ask architects to compete they should pay them, and I venture to suggest that when the President or the Council of the Institute are asked to appoint an assessor in a competition, they should stipulate that the competitors invited should be paid a sum towards their outlay. In one competition for an important building an assessor so appointed provided that the competitor placed second should receive ten, the third five guineas, and that in return for these payments their plans should belong to the promoters, the others receiving nothing.

Competitions will not cease; and, wisely conducted, they might advance architecture and produce good buildings; they call out an architect's best exertions; they ought to distribute work among the profession, though somehow their result has been to accumulate it among a few men who seem to have a faculty of gaining them, though not better architects than others who from their standing and connections would naturally have been employed. They are decided, it is complained, too much on the merits of the planning and too little on the excellence of the architecture. To make them such that other architects than those who usually gain them would not hesitate to engage in them; that work done as well as the accidents of competition drawings should be an element in decision; that the judges should have the confidence of the competitors for their appreciation of art in the architecture in the various developments now prevalent,—would, I believe, advance our art, and is well worth the consideration of the profession and the Institute.

There remains in conclusion to consider the hindrances in producing good modern architecture. By these I mean the rules and regulations which restrict and hamper the designs of buildings, and are, I believe, a chief cause of the dull and monotonous appearance of modern towns. They have generally been devised by doctors and sanitary experts with the excellent and necessary object of preventing fire, and securing that houses should be stable and so constructed as not to be injurious to the health of their inhabitants. But instead of availing themselves of the knowledge and experience of architects as to the practical means of securing the desired results, they devise crude and often tyrannical rules, without adequate knowledge of building construction, and with not a thought as to the architectural appearance, or to the cost of their requirements.

It was told me by one who had the right to know that if in drawing up the Bill for the present London Building Act the County Council had instructed their architect to arrange with a body of architects, such as this Institute, the provisions for practically ensuring the necessary requirements, the £20,000 expended in carrying the Bill could have been saved, and it would have made a better Act. Instead, they apparently put into it every restriction of their sanitary faddists, which it took about that sum and much time and trouble partly to remove.

Instead of the old liberal maxim, that people should be free from the law so long as they did not injure their neighbours or themselves, modern reformers seem to delight in

making restrictions on their liberty, and in providing a host of officials to enforce them, often incompetent, but the more tenacious of their arbitrary power to have the work done to their satisfaction. The by-laws made by urban and rural sanitary authorities have to be sanctioned by the Local Government Board, which has issued Model By-laws ignoring local modes of building and reducing houses all over the country to a uniform level of dulness. Why should the ground-floor ceiling of every room be 9 feet 6 inches high, and of bedrooms 9 feet, as is decreed by the recent Police Act for Scotland? It does not ensure ventilation; on the contrary, it provides space for vitiated air to accumulate. Low rooms with windows reaching the ceiling are better ventilated, are more easily warmed; and why should they be forbidden to those who find them pleasanter to live in? It does not ensure ventilation; there are other and better modes of providing it; and it spoils cottage architecture. It is needlessly costly, and thus prevents cottages being built. This rule is framed for the dwellings of the poorer classes, to secure, what it does not, sufficient air for a number of people sleeping in the room, and is needless in houses in which the air-space is superabundant for the number of those living in it. But officials love uniformity and to reduce all differences to one level; it gratifies their sense of symmetry and it saves them trouble. What a foolish and costly provision for ensuring ventilation is the law that every sleeping room over 100 feet area shall have a fireplace and flue, never likely to have a fire in it and usually stopped up with a smoke-board!

Half-timber construction, now that the forests are gone, will be seldom advisable; but why forbid it? The houses so built have lasted for hundreds of years. It is a most charming development of Old English architecture; and why destroy old examples by enacting that, when alterations are made, they shall conform to the new laws? Thatch, by the same law, must disappear. It may not be the best covering for a roof, though reed thatch is unobjectionable. There may be risk of fire, but the danger in isolated cottages is insignificant, and it gives beauty to many landscapes.

The precautions against fire, which are wise in crowded towns with high buildings, are needlessly oppressive for houses either low or isolated. Carrying the party-walls above the roof in ranges of low houses ruins their appearance, and is unnecessary if the slates are bedded on the party-walls. In many towns it is permitted, yet fires do not spread and insurance is not increased.

In some rural by-laws, that marvellous provision of the old London Building Act, that all woodwork should be kept back $4\frac{1}{2}$ inches from the face of the wall, has been revived, after it had been removed from the new London Act. I remember a London District Surveyor's despair almost on my telling him it had: "Surely only," he said, "with special permission of the Council." He had spent his life enforcing it. We are none the worse; all the time it existed it was merely a needless tyranny.

Another needless law, showing ignorance of common knowledge of building construction, is that which compels us to put footings to walls besides concrete foundations which are perfectly sufficient for stability without them.

It would be a worthy work for this Institute if it could induce the authorities to accept by-laws ensuring the necessary results in sanitation, ventilation, fire-prevention, and stability, but drawn with common sense and knowledge of building, which would not hamper and ruin architecture and cause needless cost.

DISCUSSION OF MR. STEVENSON'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. WM. WOODWARD [A.] confessed to some disappointment in the Paper, and regretted that Mr. Stevenson had not been present at their last meeting, when his observations on competitions would have been very valuable. With regard to Lord Grimthorpe's work at St. Alban's, he ventured to say that had the present west front been built in the thirteenth century the Institute would have been intense admirers of it, though he admitted he could not commend Lord Grimthorpe for his work on the north and south transepts. As regards straight streets and lines of frontage, these were matters under the control of the local authorities, to whose regulations architects have to submit. He agreed with Mr. Stevenson that the regulations for fire prevention were too stringent, and that the requirements of the local authorities seriously hampered and interfered with architects' designs.

MR. LACY W. RIDGE [F.], in proposing a vote of thanks to Mr. Stevenson, thanked him specially for calling attention to the building regulations so unnecessarily thrust upon them. In London and the big towns there might be some justification for them; but in the country districts they were needlessly severe and restrictive. Last year the Institute approached the Local Government Board on the matter, and they were promised by the then Under-Secretary that some attention should be given to their representations. But since then the members of the Government at the Board had changed, and he thought it was high time to stir them up again. The matter stood thus: by the Public Health Acts the Local Government Board were responsible for seeing that the by-laws made by the local authorities were suited to the districts over which they had jurisdiction. But the Local Government Board had not only failed to exercise its supervision over the making of by-laws which were unnecessary, but by a recent Act they had increased the application of the urban by-laws in rural districts. It was a serious evil, and bore very hardly not only upon architects and their clients but upon the people generally. It was time that something like a public demonstration was made upon the subject, and influence brought to bear upon the new Parliamentary officials of the Board before the present Parliament got too old to pay heed to such matters. It was evident that the permanent officials would do nothing unless considerable pressure were brought to bear upon them. Mr. Stevenson had earned their gratitude by bringing this subject before them. His remarks upon competitions were also well worthy the attention of the meeting. He wished they had gone further, for much that was so unsatisfactory in architecture at the present time resulted from the

system of competition to which the Institute had too largely committed itself.

MR. JOHN SLATER, B.A. [F.], seconded the vote of thanks. Mr. Stevenson's Paper had been an exceedingly suggestive one. The whole gist of his remarks upon competitions went to show that on the whole they were undesirable and ineffective. He was afraid that it was impossible to do away with them, but he would venture to suggest one improvement—viz. that instead of public bodies issuing general instructions to competitors without number to send in designs, they should appoint an assessor who should select a certain number of architects to compete, that these architects should be paid, and that the assessor should decide which of their designs was the best. He agreed with Mr. Stevenson that there was no reason why the assessor should not know who the competitors were. If the assessor selected the competitors, he would do so not only from the more experienced men, but from the younger men whose work he might be acquainted with, and whose abilities would justify his belief that they were capable of producing a design worthy of consideration for the prize. With regard to the hindrances they had to contend with, he perfectly agreed with what Mr. Ridge had said. These hindrances indeed were not confined to the laws and regulations of the Local Government Board with regard to country places; but in London also architects were hampered to a most regrettable extent by the regulations of the Building Act. Ten years ago, in a Paper he had had the honour of reading before the Institute on Building Legislation, he pointed out the great objections to laying down hard and fast rules when dealing with an area which had been covered with buildings for many years. There was not a single regulation in the London Building Act that he should have the slightest objection to if it applied to new areas about to be built upon; but dealing as it did with existing areas, hindrances and obstructions were caused which prevented good buildings and perpetuated what was bad. One regulation of the Act came very often within his purview—viz. the matter of straight streets referred to by Mr. Stevenson. Nowadays most London streets are straight, except where they followed old by-ways, such as Marylebone Lane; but there was no need for the Building Act to have made it so difficult to produce little variations in the outline as it does by prohibiting projections. He had never been able to understand the need for the restriction as to bay windows. Starting from the basement, one can only carry up bay windows three stories, and the story is not defined in height; but starting with an oriel, one may go up as many stories as one

pleases. Furthermore, a bay window may be projected three feet, but if, in reconstructing an old building, even although there is an open area in front, a man wants to put a porch out, the District Surveyor raises objections immediately. Such restrictions make the streets of London stereotyped, they make them flat, and they make them unarchitectural. There was some talk lately of the London County Council going to Parliament for various improvements and amendments of the Building Act; he felt certain that if the Institute showed that some of its restrictions acted inimically to good architecture it would be possible to get the offending regulations altered or removed.

MR. LEWIS SOLOMON [F.] said he had much pleasure in supporting the vote of thanks. When an artist of Mr. Stevenson's calibre had to complain of restrictions from the practical point of view, those restrictions must be very bad indeed; and it was the duty of all architects to put their shoulders to the wheel and insist that they ought to be considered, that they were the best judges of what was good architecture, and that they studied their clients' interests in getting good buildings erected wherever possible. It was with that object that he had brought forward his motion at the last meeting, when, doubtless owing to the bad weather that evening, there was a very small assembly present. If Mr. Stevenson had been able to be present then, he felt sure he would have had his assistance in arriving at the conclusion he sought—namely, that a committee should be appointed to study the subject, and devise means for bringing about a more desirable condition of things.

MR. W. D. CARÖE, M.A., F.S.A. [F.], said he should like to add a word to the vote of thanks. As Mr. Slater had said, Mr. Stevenson had given them a very suggestive Paper on many points. He should like also to put a slightly different construction upon his view as to assessors in competitions not knowing the names of the competitors. He himself had on many occasions spoken strongly of the importance of the judging in a competition being entirely in the hands of an assessor independently of the committee. At the same time he fully concurred in Mr. Stevenson's view that two assessors would be very much better than one, and he should like to see two assessors appointed, with the possibility of appointing an umpire, in large competitions. If the assessor was to be the sole judge of the designs submitted, he entirely concurred with Mr. Stevenson. It was more or less an insult to the assessor to assume that he would show favouritism if he happened to know the competitors' names. But there was another point of view. Many committees—he had found it frequently the case—positively refused to let the assessor do anything but assess—they reserved to themselves the final judgment; and it was a matter of very great import-

ance, especially in committees of public bodies or large charities, that the individual members of the committees should not be acquainted with the names of the competitors. Obviously they would not allow the assessor to know the names of the competitors if they did not know them themselves. He therefore held that in cases where the assessor himself was not the final judge, it was no insult to him not to know the competitors' names. He joined with the evident sense of the Meeting in connection especially with the recent rural by-laws which had arisen under the new District Councils. He agreed with Mr. Slater that they should take the first opportunity to endeavour to get certain regulations of the London Building Act still further amended, and, in some respects, to bring them into conformity with those of some of the northern cities, which had refrained from adopting them, and had found matters go on perfectly well without them. The matter was a fresh one with regard to the rural by-laws, and since the District Councils came into power things had got worse; it was indeed preposterous that they should be confined in the way they were in dealing with rural buildings. The old London Building Act, which was discarded in London, was made to rule, and to prevent architecture eminently suitable to rural localities. He hoped that the whole Institute would put its back into this matter and endeavour to obtain some amelioration of what was ridiculous and absurd.

MR. MAURICE B. ADAMS [F.] referred to the usefulness and interest of Mr. Stevenson's Paper, and remarked that they also owed the author their thanks for the practical manner in which he himself had realised that good architecture did not always consist in numberless features. The tone of his Paper seemed rather to be of an artistic character than dealing primarily with building laws and local Acts and by-laws which are so vexatious. Reference had been made to the restriction against carrying bay windows from the ground floor above a certain height, but oriel windows might be carried to any height one pleased. It seemed to him that it would be much better if oriels and bays could be left out entirely, seeing that their street architecture was utterly ruined by these excessive features being so unsparingly introduced. Had such details been omitted, for instance, from the buildings in Charing Cross Road and Shaftesbury Avenue a much more satisfactory result would have been obtained. It was with the view of emphasizing what Mr. Stevenson had said that he went into this question. Take a narrow frontage, where the vertical lines are necessarily very emphatic by the narrowness of the plot with which the architect has to deal. He is exercised by the difficulties of his clients requiring an immense amount of light, and the fenestration

has to be augmented beyond all control; but still it has to be done, and should there be a shop front below, the result is most disastrous. Then, to aggravate that, the architect more often than not puts all kinds of aggressive features and furbelows into it. If he could only be content to make his front quite plain, he would not be limited by the Building Act in anything like the degree that he is at present, and the result, from the artistic point of view, would be very much more satisfactory. Mr. Stevenson's own buildings, if he might say so in his presence, had always struck him as being distinguished by this breadth and simplicity, which was so pleasing and desirable. With regard to modern buildings in towns, there was another hindrance which struck him as being detrimental to good architectural effect—one they could not very well help—viz. the necessity of using so much iron. Our Transatlantic neighbours simply construct their building entirely of iron, and put a veneer of stone upon it, beginning at the top and bottom and ending somewhere in the middle. We have also methods here equally undesirable: probably a site in the City is vacant, and the owners, requiring to make as much money as possible out of it, insist that the exterior shall be erected and the inside left practically a skeleton, so that it can be portioned out with narrow partitions more or less fireproof, and ultimately let to the most advantage. Then they must have very low windows, and very high windows, with the minimum of space between the floors, going back to what he had just said with regard to the over-emphasis of openings. It seemed to him that an everyday instance like that was one of the most detrimental problems with which they had to cope, almost rendering satisfactory work impossible. He was inclined to think that the only way to deal with it would be to recognise the iron and to fill in the spaces, as he had seen done, with plaster, and not attempt to put any stonework upon it at all. Discussions of this kind helped to promote thoughtfulness on the part of members; and he thanked Mr. Stevenson very heartily for coming down to address them.

Mr. E. W. HUDSON [A.] said there was one other difficulty which had not been alluded to either in the Paper or by previous speakers—viz. the difficulty in London and in large towns of securing an adequate site in which architecture might really be seen when produced. There exist many good buildings which it is impossible to see, and which have been spoilt in planning by the inadequacy of the site. In commercial portions of London this could not well be obviated; but in the case of public buildings every effort should be made to induce the authorities to provide adequate sites. That was a subject upon which the Institute might beneficially raise its voice, and it often could do so through assessors in competitions.

Mr. ASTON WEBB, A.R.A. [F.], said he should like to be allowed to add his small meed of thanks to Mr. Stevenson for his thoughtful and interesting Paper. When he saw the subject, the "difficulties and hindrances in producing good modern architecture," he made up his mind to come and hear it. They all suffered from those difficulties, and knew what they were; and when a Scotchman dealt with difficulties they generally expected that he would find a way out of them! Mr. Stevenson, perhaps, had not altogether done that, but he had certainly brightened their thoughts, and enabled them to some extent to see some light through these difficulties. If he might treat the subject in a little broader way than by going into the details of the Paper, he would like to say that Mr. Stevenson seemed a little too pessimistic about modern architecture. He must say that it was a great delight to him, a short time ago, when, one of their greatest architects being asked what he thought the finest building in the world, he was able to pitch upon an English building, and one which had been erected in his own time. Well, if they could turn out one of the finest buildings in the world in a generation, they need not be so very despondent about their art. That building was St. George's Hall, which Mr. Stevenson had referred to; and the previous generation had the distinction and privilege of seeing the Houses of Parliament put up, which many would agree was also one of the finest buildings in the world. Those two buildings, I may mention in passing, were both the results of competition, which every one now seemed to agree was such a very degrading process. He would express no opinion upon that, one way or the other. One of Mr. Stevenson's remedies was the study of old work, and he supposed everyone in the room would agree that the study of old work was essential for the production of the new; and yet he would rather hope and plead that to the rising generation there should be some other hope held out as well. We who have been at it so long have certainly lived on and studied old work; we have lived in memories, and these buildings which have been put up in the last century are memories of those which were built long before. We have dallied, if he might say so, in a garden of memories, and a very delightful and happy time we have had; but he fancied that the younger men, who have not known those delights, would have to look forward to something more; and while looking back they would also have to look forward into what he might call the workshop of hope, and, not forgetting what has been done before, would have to develop some new line of departure and effort. The difficulties and hindrances to architecture, like all other matters in life, are often after all for our greatest good; it is the restrictions, the limitations, the difficulties and the hindrances that perhaps bring out our best energies and our best work. When

they remembered that the Paper read that evening was by the architect of the Red House in the Bayswater Road, they saw that those difficulties and those hindrances did not necessarily interfere with the production of excellent, quiet, domestic architecture, which passers-by delighted in, and felt that there at any rate those restrictions had not interfered with the production of something which was delightful and good. That we must have restrictions was certain, and also that our work, however great a pleasure it is to us, must be brought out through travail and labour; for as gold is tried by fire so we must be tried by pain.

THE PRESIDENT thought that Mr. Webb had lit the right nail on the head in speaking of Mr. Stevenson's views as to the architecture of the present time being a little pessimistic. He supposed even Mr. Stevenson could hardly expect that every man in the profession could be an artist of the highest class; but there was a sufficient sprinkling of very clever architects amongst the number, and that others are rising was conclusively shown by the student's work. There was room for hope that the architecture of the new century might not be so very far behind some of that produced in the last, such, for instance, as the two buildings Mr. Webb had referred to. It seemed to him that Mr. Stevenson's Paper was an artist's wail against fetters: he does not like to be constrained by anything; there must be no County Councils or local bodies to impose restraints upon us. This wail must have struck a sympathetic chord in the hearts of most of them. All who have had buildings to design in our modern towns, and have experienced the complexities of modern work, must feel that the thousand and one different rules they have to conform to tend to wear their lives out. With regard to competitions, there was a great deal to be said on both sides about them; but he thought that the proper conduct of competitions depended really on members of the profession themselves, almost more than on the promoters, because if architects would rush into competitions on the smallest provocation, on the unfairest of terms, with the vaguest chance of getting a piece of work, they could only blame themselves if promoters did not always take the trouble to make proper conditions and appoint a competent assessor. The Institute did all it possibly could to improve matters. Only the other day they wrote a letter to a committee pointing out the unfairness of their published conditions, and they received a most insulting reply, saying that their interference was unwarrantable. The Institute, indeed, had great difficulties in getting its way in many of the competitions now promoted. With regard to the Rural Districts by laws, the matter had been under consideration by the Council only that afternoon, and they had determined to approach the Local Government Board again on the matter.

MR. STEVENSON, in responding, said he agreed with Mr. Webb that the kind of difficulties to which he referred were not a hindrance to good architecture; on the contrary, some of the most interesting features in architecture had been attained by the architect getting over them. Difficulties were an architect's opportunities. In saying that architecture now did not attain to the perfection of the old, he had referred to the great majority of buildings now erected as compared with former times when none were bad—not to special buildings, some of which could stand comparison with the old. One speaker had thought that he was "agin all law." On the contrary, he had said that the chief difficulty for architects at the present time was their freedom—that they could do what they liked—they were not restrained. He agreed with Mr. Adams in condemning the restlessness of some newer streets—as shown, for instance, in Shaftesbury Avenue—as contrasted with the restrained quiet of old ones depending for their architectural effect on good proportion, not on striking "features" about the buildings in the belief that that was architecture. As well say good writing consisted in strong adjectives. Mr. Hudson had said the inadequacy of the sites made good architecture difficult. But the photographs of old streets hung on the walls showed what good buildings and what excellent effects could be got in narrow streets and sites which would now be considered quite inadequate. The architectural effect of the Strand was better than that of Oxford and Cambridge Terrace. Width in a street did not ensure ventilation. Greater movement of the air would be got, and far better architectural effect secured by wider open spaces and narrower streets opening into them, than by the monotony of streets all exactly the same width which the building Acts produce. As to the assessor in competitions, one speaker had advised that he should be given even more power than he had—that he should not only decide the competition but select the competitors. He had endeavoured to show that the assessor had too great arbitrary power already. Another speaker had objected to the names of the competitors being known, because, though the assessor might be above suspicion of favouritism, members of the committee might not be. But in that case also concealment would be futile, for the competitor whom members wished to favour could tell them which design was his, and they could favour it without incurring any discredit. What was wanted was perfect openness: let everything be above-board; let the competitors put their names on the drawings, let the assessor give his report or the judge his decision, *with their reasons*, and let these be known to the competitors; and he would also strongly urge them to try the plan of allowing the competitors, when appointed, to elect the assessor.



9, CONDUIT STREET, LONDON, W., 26th Jan. 1901.

CHRONICLE.

Death of the Queen.

The President, on behalf of the Institute, addressed a telegraphic message of condolence to the King, on Wednesday, 23rd inst.

The following acknowledgment was telegraphed from Osborne on Thursday:—"Am commanded by the King to thank you and Council of Royal Institute of British Architects for your kind expression of sympathy.—EQUERRY."

THE PRIZES AND STUDENTSHIPS, 1901.

The Deed of Award.

To the General Meeting, 21st January 1901:

GENTLEMEN,—Pursuant to the terms of By-law 66, that the Council shall, by a Deed or Writing under the Common Seal, award the Prizes and Studentships of the year, and announce such awards at the next General Meeting after the adjudication, the Council have the honour to state that they have examined the several works submitted for the two Silver Medals of the Royal Institute, the Soane Medallion, the Owen Jones and Pugin Studentships, the Godwin Bursary, the Tite Prize, and the Grissell Gold Medal.

THE ROYAL INSTITUTE SILVER MEDALS.

(i.) The Essay Medal and Twenty-five Guineas.

Three Essays on the Comparative Desirability of the Formal or Irregular Treatment of Street Architecture in Large Cities were received for the Silver Medal under the following mottoes:—

1. "For Truth and Dignity."
2. "Modus in Rebus."
3. "Per Ardua."

The Council have awarded the Silver Medal and Twenty-five Guineas to the author of the Essay bearing the motto "Modus in Rebus" [Arthur Maryon Watson [A.], 9 Nottingham Place, W.], and a Certificate of Honourable Mention to the author of the Essay bearing the motto "Per Ardua" [W. Curtis Green, 63 Bedford Gardens, Campden Hill, W.].

(ii.) The Measured Drawings Medal and £10. 10s.

Eight sets of Drawings were sent in, of the several buildings indicated, and under motto, as follows:—

1. Archer (St. John's Church, Westminster).
2. Cannon (device) (Burghley House, near Stamford).
3. Cross Keys (Walpole St. Peter's, Norfolk).
4. Petrel (Holy Trinity Church, Hull).
5. Roda (Church of St. Magnus, Fish Street Hill).
6. Semper Fidelis (Guildhall, Exeter).
7. Stafford Knot (Kirby Hall, Northants).
8. Tressilian (Stoke Priory Church).

The Council have awarded the Silver Medal and Ten Guineas to the delineator of Kirby Hall, submitted under the motto of "Stafford Knot" [Lawrence L. Bright, 3 Villa Road, Nottingham], and Medals of Merit and Five Guineas each to the delineators of St. John's Church, Westminster, and Burghley House, submitted under the motto of "Archer" [A. Wyatt Papworth, 10 Park Place Villas, Maida Hill, W.], and device of a Cannon [Henry Francis Traylen [A.], 15 Broad Street, Stamford] respectively.

THE TRAVELLING STUDENTSHIPS.

(i.) The Soane Medallion and £100.

Twenty-two Designs for a Club House in a large City were submitted, under the following mottoes:—

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|-------------------|------------------------|
| 1. Ace. | 12. Ivanhoe. |
| 2. Ace of Clubs. | 13. Melba. |
| 3. Ars. | 14. Pan. |
| 4. City. | 15. Pembroke. |
| 5. Desormais. | 16. Post Fanum Vacuæ. |
| 6. Elsa. | 17. Q.E.F. |
| 7. Fordingbridge. | 18. Red Seal (device). |
| 8. Grex. | 19. Rime. |
| 9. Hal. | 20. Thistle. |
| 10. Hiawatha. | 21. Thor. |
| 11. Ionic. | 22. Ultimus. |

The Council regret that they are unable to award the Soane Medallion, but they have voted sums of Thirty Guineas each to the authors of the designs submitted under the mottoes of "Ars" [Matthew James Dawson, 37 Ossington Street, Bayswater, W.], "Hiawatha" [H. Munro Cautley, The Rectory, Westerfield, Ipswich], and "Ionic" [J. B. Fulton, 10 Rothwell Street, London, N.W.] respectively.

(ii.) The Owen Jones Studentship and £100.

Six applications were received for the Owen Jones Studentship from the following gentlemen:—

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|---------------------|-----------------------|
| 1. E. Bennett. | 4. Percy E. Nobbs. |
| 2. D. T. Fyfe. | 5. Hervey Rutherford. |
| 3. James McLachlan. | 6. Ramsay Traquair. |

The Council have awarded the Certificate and (subject to the conditions, among others, that the said candidate devote a tour of not less than six months' duration to the improvement and cultivation of his knowledge of the application of colour as a means of architectural expression, and furnish the Council with an original design in coloured decoration of a prescribed subject) the sum of One

Hundred Pounds to Mr. J. Hervey Rutherford, 7 Dalrymple Crescent, Edinburgh; Medals of Merit to Mr. Percy E. Nobbs, M.A. [A.], 49 Queen Street, Edinburgh, and Mr. Ramsay Traquair [A.], 8 Dean Park Crescent, Edinburgh; and a Certificate of Honourable Mention to Mr. Edward H. Bennett, 18 rue Bonaparte, Paris.

(iii.) *The Pugin Studentship and £40.*

Nine applications were received for the Pugin Studentship from the following gentlemen:—

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|-----------------------|---------------------|
| 1. H. Comyn. | 6. C. B. Pearson. |
| 2. James C. Cook. | 7. Harry Philbs. |
| 3. Henry Wm. Cotman. | 8. A. J. Pitcher. |
| 4. Shirley Harrison. | 9. J. Forbes-Smith. |
| 5. Frederic J. Horth. | |

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration in some part of the United Kingdom to the study of Medieval Architecture) a sum of Forty Pounds, to Mr. Henry Wm. Cotman, 133 Amesbury Avenue, Streatham Hill, S.W.; a Medal of Merit to Mr. J. Forbes Smith, 3 Hope Park Terrace, Edinburgh; and a Certificate of Honourable Mention to Mr. A. J. Pitcher, Sebright Avenue, London Road, Worcester.

(iv.) *The Godwin Medal and £40.*

One application was received for the Godwin Bursary.

The Council have decided not to award the Bursary this year.

(v.) *The Tite Certificate and £30.*

Twenty-six Designs for an Entrance Gateway to a Public Park were submitted under the following mottoes:—

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| 1. Lion (device). | 14. Nep. |
| 2. Alfio. | 15. Nocturne. |
| 3. Arc. | 16. Pencil. |
| 4. Boadicea. | 17. Royal. |
| 5. Civis. | 18. Rus in Urbe. |
| 6. Corona. | 19. St. Andrew. |
| 7. Englishman. | 20. St. George. |
| 8. En Règle. | 21. San Gallo. |
| 9. Fiori. | 22. Spes. |
| 10. Labor ipse voluptas. | 23. Tay. |
| 11. Le Nord. | 24. Tenax Propositi. |
| 12. Leo. | 25. The Bard. |
| 13. Marble Arch. | 26. Utile Populo. |

The Council have awarded the Certificate and (subject to the condition, among others, that the said competitor, after an absence of not less than four weeks, shall submit satisfactory evidence of his studies in Italy) a sum of Thirty Pounds to the author of the design bearing the motto "Corona" [William Fairbairn, 9 Spence Street, Edinburgh], a Prize of Ten Guineas to the author of the design bearing the motto "St. George" [Ralph Knott, 66 Oakley Street, Chelsea], and a Certificate of Honourable Mention to the author of the design bearing the motto "Marble Arch" [William Arthur Mellon, c/o E. N. H. Spencer, Esq., Odsey Grange, Ashwell, Herts.].

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Medal and £10. 10s.

Eighteen designs for a Timber Footbridge across a Stream were submitted under following mottoes:

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| 1. Intersected crescents in circle (device). | 10. Pons Asinorum. |
| 2. Draughtsman. | 11. Quaver. |
| 3. Firenze. | 12. Red Quatrefoil (device). |
| 4. Forward. | 13. Shingle. |
| 5. Ilex. | 14. Spes. |
| 6. Inter alia. | 15. Telford II. |
| 7. Juno. | 16. Trabs. |
| 8. Koppernob. | 17. Truss. |
| 9. Peck. | 18. Utile Populo. |

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "Pons Asinorum" [Edwin Forbes, 17 Buckingham Street, Strand, W.C.].

THE ASHPITEL PRIZE 1900.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitol Prize (which is a Prize of books value Ten Pounds sterling, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year) to Mr. Shirley Harrison, of Leicester. Mr. Harrison was registered *Probationer* in 1897, *Student* in 1898, and passed the Qualifying Examination for Associateship in November 1900.

The Council have further awarded extra prizes of Five Guineas each to Mr. C. H. F. Comyn [A.] and Mr. C. E. Vardell [A.], who passed the Final Examination in June 1900.

THE TRAVELLING STUDENTS' WORK.

Owen Jones Studentship 1899.—The Council have approved the drawings and design executed by Mr. John Stewart, who was awarded the Owen Jones Studentship for 1899, and who travelled in Italy, Greece, and Spain.

Pugin Studentship 1900.—The Council have approved the work of Mr. James McLachlan, who was awarded the Pugin Studentship for 1900, and who travelled in Norfolk, Lincolnshire, Northamptonshire, and Warwickshire.

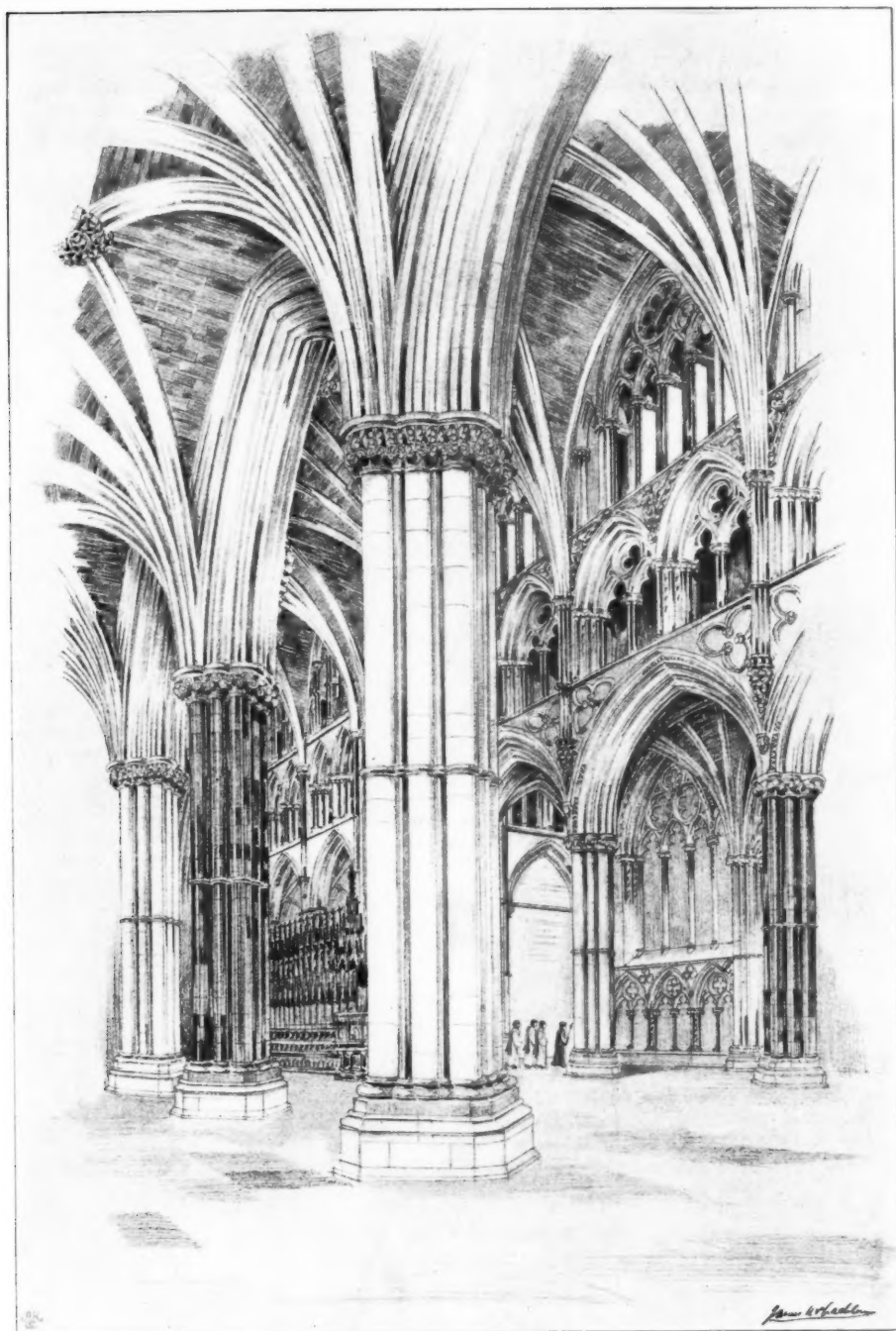
Tite Prize 1900.—The Council have approved the work of Mr. Percy Erskine Nobbs [A.], Tite Prizeman 1900, who travelled in Italy.

In witness thereof the Common Seal has been hereunto affixed this Twenty-first day of January 1901, at a Meeting of the Council.

(Signed) WM. EMERSON, *President*; EDW. A. GRUNING, *Vice-President*; ALEXANDER GRAHAM, *Hon. Secretary*; R. PHENE SPIERS, H. H. STATHAM, THOS. BLASHILL, *Members of Council*; W. J. LOCKE, *Secretary*.

Reinstatement of Member.

Mr. William Vaughan, of 5, Lower Grosvenor Place, S.W., has been reinstated by the Council *Associate R.I.B.A.*



CHOIR OF LINCOLN CATHEDRAL.

From a Drawing by Mr. James McLaughlin, *Pugin Student* 1900.

THE USE OF PERSPECTIVE.

By T. RAFFLES DAVISON [H.A.].

THE Royal Institute of British Architects did Mr. H. W. Brewer and myself the honour, some little time ago, of electing us Honorary Associates of the Institute, presumably as some sort of recognition of the many years spent by us in the perspective representation of architecture. No doubt Mr. Brewer, equally with myself, highly esteemed the honour. Certainly in Mr. Brewer's case such honour could not be regarded as other than a genuine tribute to the invaluable work he has achieved in the pictorial elucidation of architectural design. And yet at a meeting of the Institute the other day it was decided that the perspective view was an unnecessary item in competition drawings. This, too, after the recent competition for the new Strand frontages, in which only elevations were permitted, and which, when exhibited, conveyed no understandable idea of their complete and actual representation as parts of the great improvement scheme.

Possibly I may not be regarded as an impartial critic. My view of architecture must necessarily be in perspective. That is to say, I have learnt to look upon architecture as it really appears in its concrete form, and not in the light of the architect's working drawings—to think chiefly of the end and less of the means by which it is reached. Whether an architect can put up a building from geometrical drawings, or without drawings at all, does not affect my view of the question, which simply is, to be able to understand what a building will be like when it is finished. It is of real importance to know what is going to happen when one has to use one's eyes to realise it.

The objection to perspective drawings seems to me to be indicative of a growing feeling against ornamental drawing. The depreciatory criticism one frequently hears in respect to architectural drawing as an art in itself must likewise be considered a sign of the times. For this kind of mental aberration—let us hope it is only temporary—we may find a parallel in the feeling which prompts a man to leave a life of luxury and pleasant social surroundings in order to become a monk or a "slummer." It is like the affectation of simplicity by the very luxurious, and those whose minds are wholly beset by the complexities of modern life, and who have no real simplicity of character at all. It is parallel to that condition of mental disturbance which inspires certain very able architects to give us broken pediments, fussy details, and heavy proportions as their contribution to architecture, because they desire to take up the sequence of a style. Or it may be found in the case of the clever Gothic architect who elects to endow a beautiful modern Gothic church with heavy archaic Byzantine stalls and altar table!

My contention for the proper appreciation of perspective drawing only extends to that which can be accepted as a fair and truthful setting-out of an architectural design. I would not contend for any adventitious prettiness, but only for truth. One desires to know the truth about a building (however good or even bad it may be). In fact, the designer's own careful pencil sketch, or rough but accurate perspective outlines, such as were prepared for at least one of the Strand frontages designs, would be enough when they could be obtained. And this perspective is not required merely for the poor lay committee men, who mayhap would like to understand, if they might, what sort of a building they were going to get for their money. It is in some sort an axiom that an architect must always *think out* his design in perspective; it is a still more solid fact that he has to build in perspective. Therefore it is surely in his interests quite as much as in those of the lay committee man that the argument in favour of perspective drawing should be strongly held. He needs to know, more than anyone else, exactly how this or that feature or proportion will work out in perspective. It has been my privilege in my own work to enjoy the confidence of many able architects in regard to suggestions and improvements, *studied by them in perspective*, and that such study immensely helps the final result cannot, I am sure, but be admitted. The alteration of a hip, the increase of a projection, the adding of a new feature or the removal of an unnecessary one—nay, possibly the alteration of the whole design—may come about with this study in perspective. One could enumerate many buildings to illustrate the point. Compare the elevational drawings of Mr. J. W. Simpson's Cartwright Memorial Gallery at Bradford with the view lately published. Or take the Strand frontages designs as further examples. Would it be believed that some of those most nearly interested did not realise from the elevations that there was a street of 100 feet passing between the *Morning Post* offices and the new Gaiety Theatre buildings, but really thought they were all joined together in one long line of frontage!

The truth of the matter is, it is the elevation which is the dangerous and misleading item in the illustration of a design. Things which look well enough in elevation have a trick of turning up very queerly in perspective. But if the architect studies his work in perspective he has fewer surprises in store for himself and others when the building comes to be erected. The day for elaborately shaded elevations—*à la* Beaux-Arts direction—is gone by. Nowadays we mostly desire to get to the root of things, and realise the finished result as quickly and clearly as possible. The most lightly touched in perspective, if accurate, is better as a realisation than any number of highly finished elevations. The elevation should

not come to be regarded as other than a means to an end, and is still so used, but no doubt at the present rate of progress it will ere long become obsolete, and the architect—probably dressed in corduroy—will sit in a hut on the job, peacefully smoking his pipe, and directing the arrangement of the building on the site—nearer yon tree, or further down that slope—unaided by any medium save the judgment of his eye!

Illusion and Sham constitute the great evil of the present day, and they find their outlet in certain affectations springing up in modern life. Whither will affectation lead us in regard to this question of architectural drawing? And what are we to expect when an accomplished draughtsman like Mr. Weir Schultz, in his well-meant and, in some respects, sound advice to architectural students, drags the art of drawing under the chariot wheels of Progress and Practicality? Is the art of drawing, *per se*, to disappear from the ambition of an architect altogether? If merely sound building, practical construction, and elevational setting-out of solids and voids were all that we needed in architecture, then might we accept elevations as the be-all and end-all of architectural drawing. But if we desire any poetry or romance, any vision of fancy or splendour, how shall we obtain results of nicely-adjusted outline and mass, of projecting cornices, oriels and bays, of receding faces, galleries, balconies, spires, towers and turrets, by the mere study of elevations? I should like to ask whether the daring—I might say romantic—character of Professor Beresford Pite's early drawings has interfered with his practical ability or soundness of design? It is a pleasure to find him still upholding the advantages of good drawing. Even a hospital architect cannot nowadays ignore architectural effects. An asylum scheme covering twenty acres of ground, with buildings of varying height and character, but all subordinated to one central group, cannot be set out and realised in one elevation, or many. As our noses get closer and closer to the grindstone in this hurrying modern life, we like to dispense with all that is unnecessary; but, till our eyes are differently organised, we shall still have to look at everything in perspective.

It might be suggested that the art of architecture consists in producing perspective in actual building, and not merely on paper. Which is true enough; but all the same an architect *has* to be an adept at perspective. Some accomplish it in the building only; some only manage it on paper. But the best architect is the one who realises it in both ways. Those architects who taboo perspectives would, I suppose, admit the soft impeachment that they are able to realise the perspective effect in their mind's eye! In fact, they do this so well as to be able to quite dispense with the labour of transferring it to paper. They could calculate the receding surface of a dome exactly, at one, two, or three hundred

feet from the building, and also at any stated height from the ground. The accuracy of the result would preclude any necessity for realising it on paper. And yet I wonder how many practising architects could give a fair perspective record of an Ionic Greek capital, with all its dainty refinement, looking up at it from beneath, not necessarily by going abroad to do it, but just setting it out from consideration of the plan and elevation.

Though some really able architects can design good buildings without much accomplishment in drawing, I would point to Messrs. Leonard Stokes, Ernest George, Beresford Pite, Aston Webb, T. G. Jackson, H. J. Austin, and Reginald Blomfield as men who can, and do, think in perspective, who can draw perspective as well as build perspective, and who, because they happen to be engaged in the noblest art of all, do not disdain the art of drawing, either as to its usefulness or its purely artistic value. The perspective drawings by the above-named architects are amongst the pleasant memories of us all, and, strongly as they might protest against the foolish waste of time spent on architectural drawing as an art, they would, I am sure, admit that they had derived both pleasure and profit from the pursuit.

It seems to me such a ludicrous topsy-turvydom of things to alienate the pictorial representation of architecture from its practical study and pursuit that I would fain imagine it to be only a passing affectation, which will not long survive. For my own part I would urge the architectural student to think incessantly of the perspective result of his creation; to try and realise all his buildings in the mass, as objects having length, breadth, and thickness; to draw unceasingly and carefully; to learn to draw *well*; to so practise the perspective of every part of a building that by this very practice he will help the realisation in his mind of what he desires to create; to cultivate wide sympathies for art in every phase, as by so doing he will be the most likely to be successful in his own particular work. Let the student at least thank Heaven that, though perspective drawing might be abolished by law, he would still have the world around him, all in proper perspective, so that life need not be flat—as an elevation!

One does not live to middle age without knowing well enough that our own individual opinion is of little importance. But, in conclusion, I would like to say that few perhaps have had so wide an experience of perspective drawing as myself; fewer still have derived more pleasure from the practice of it; and none has more sincerely desired to render it a truthful and helpful representation of architectural design. These considerations, together with the real and deep interest I feel in the art so dear to us all, must be my apology for thus trespassing upon the space of the R.I.B.A. JOURNAL.

REVIEWS.

LINE AND FORM.

Line and Form. By Walter Crane. 80. Lond. 1900. Price 12s. net. [Messrs. George Bell & Sons, York Street, Covent Garden, W.C.]

The question that will probably occur to anyone perusing this book is this: "Were the students in the Municipal School of Art in which these lectures were delivered persons of more than ordinary density of intellect?" or, indeed, does the writer believe art students generally to be devoid of understanding? If not, why so much iteration upon simple points which only needed to be stated in a few words to be really useful? Mr. Crane, who can so often delightfully express much with a few strokes of his pencil, seems when he takes pen in hand to be overpowered by detail. His immediate object is smothered by convolutions of words. And even while he is elaborating one exposition, another occurs to him, to be also stated in many words. Or again, while some question of "form" or "line" is under consideration, the use of the word "texture" will start him off on a detailed description (with illustrations) of the process of tap-stry-making. The fact is that the author does not sufficiently co-ordinate his matter. Instead of selecting from his large resources what will really serve to make his point, and to fix it on his students' attention by stating it in clear language, he throws his reader's mind into confusion by enormously long sentences and a dispersion of interest.

Of the many drawings with which the book is illustrated, some of those of plant-form, both natural and conventional, are charming: nor could there be much better example of the distinction between the two methods of rendering than the "Olive Branch" from Nature (page 29), and the same treated decoratively on the next page. On the other hand when, immediately afterwards, the author, on page 33, gives the "Horned Poppy" (which takes its very name from the rigidity of its long pods) as designed for a panel, and shows the said pods treated like the arms of an octopus, in sinuous wanderings, all identity is lost: and it is not even a conventional horned poppy. In discussing lines of movement, Mr. Crane has one very ingenious illustration, a diagram of the successive positions of the over-hand bowler. In effect his deduction is justified. It is difficult to understand that anyone who is ever likely to draw can be assisted by the methods illustrated on page 11, where, in one case, horse and man are gradually put together of ovals of all sorts and sizes; in the other, they are built up of innumerable bricks or blocks. To mark out, in block, the main forms or masses is one thing; but the student who needs to build up the human form in square bricks (ten or a dozen

to each leg) had surely better choose another calling.

To sum up, the book, as coming from a designer of such eminence, is disappointing. It too often happens that a man may be master of his subject, have thought it all out theoretically, and never be at a loss for a reason in his own procedure; yet when it comes to imparting to others that which is so familiar to himself, he has not the gift of so sorting, selecting, and arranging his matter as to convey clear and consecutive impressions. There is no proportion. The "general" and the "particular" are mixed up. The reader's mind cannot jump from one to the other so easily. Nor can it master, without exhaustion, such sentences as that in the middle of page 99, which is fairly typical of the book. There is much careful thought and analysis; but it would have had twice the value had it been put into fewer words and into more systematic order.

J. D. CRACE.

IRON AND STEEL CONSTRUCTION.

Structural Iron and Steel. A Text-book for Architects, Engineers, Builders, and Science Students. By W. N. Twelvetrees, M.Inst.C.E., &c. "The Builder" Students' Series. 80. Lond. 1900. ["The Builder" Office, 46 Catherine Street, Strand, W.C.]

If architects young and old realised, as some engineers do, the "human nature" (so to speak) of the materials which they employ, such higher intelligence and deeper insight on their part would not only add greatly to the charm and interest of their professional work, but would also powerfully tend to restore the architect to his long-lost status of head-master of technical knowledge and work, a status which the word "Architect" so tersely and fully expresses. Many things taught in Mr. Twelvetrees' book are what architects too generally neither know nor think of, and yet things of which every architect should feel ashamed to be ignorant. If stones and bricks and timber and iron could only tell in good plain Saxon the stresses and distresses which some of them silently endure, while others of them are doing and bearing nothing, but are imposing additional loads on the rest, many an architect who is now indifferent to the excess of suffering on the one hand and of idleness on the other of all that costly material employed by him so blindly and blunderingly would be brought to book; and would be judged by public opinion as unfit to be entrusted with the tasks and responsibilities which only those who do realise the "human nature" of structural materials are qualified to discharge. If all the lazy and extravagantly costly material, and all the overstrained and half-murdered material, of a building could express its heartfelt judgment of the architect who assigned each portion its task, the chorus of "Fool! Fool! Fool!" would be so

many-voiced and persistent that the near neighbourhood of his own buildings would prove unendurably tormenting to many an architect who to-day feels a vulgar pride in his showy creations as he struts past them.

The principle of Proportion, which is the true foundation of all architecture worthy of the name, extends not only to fenestration and intercolumniation and to mere externals, but permeates the whole structure in its unseen as well as seen parts, and demands from the architect that penetrative and analytical intelligence and skill which are so admirably exemplified in Mr. Twelvetrees' book. The mean shifts to which ignorance degrades even those "eminent" architects who are always careful to cast their own proper responsibility on the shoulders of the poor victimised contractor, would be rendered unnecessary if such architects would take the trouble to thoroughly acquaint themselves with the constructive principles taught by Mr. Twelvetrees' book and by similar books on constructive science. One case alone, without mentioning names, will serve to illustrate the mean shifts alluded to. In a large new public building, costing more than £100,000, the flat ceilings of some very large oblong wards are very properly of concrete, as preventive of fire. To support this concrete ceiling the architect placed one steel girder or joist in the middle of the ceiling, running longitudinally so that its span was the full length of the very long ward, with no supporting columns. Over that longitudinal girder, and resting across it, he placed steel joists transversely at regular intervals. The concrete was cast upon this foundation of steel joisting. As a natural result, some time after the new building was occupied, it was found that the longitudinal girder had sagged more than four inches, and all the ceiling had of course sagged with it. Then there was the devil to pay; and the question arose who should pay him. The architect was appealed to. But he pointed to a clause in the specification which made the contractor responsible. No doubt the common sense of the contractor and his foreman should have warned them against that wrong arrangement of the supporting beams. But their confidence in the skill of the "eminent" architect seemed to have stultified their own practical judgment.

No person—be he builder or architect—who had carefully studied Mr. Twelvetrees' able book would be driven by ignorance to such a mean shift as that of this "eminent" architect, nor to such ill-judged compliance as that of this careless contractor. Fantasy and whimsy nowadays threaten in our architecture to usurp the authority of proportion, too many an artist hiding his ignorance of structural science under a mask of vulgar elevational fandangles. "Why should I bother my head with strains and stresses? I am

not an engineer, and don't profess to be. I get a young consulting engineer, who has his office in a by-street round the corner, to do all my stress calculations for me." This is the case of too many a modern practitioner, who might with propriety claim the Yankee title of "house artist," but who most improperly poses as an architect.

A connection undoubtedly exists between the structural science and the aesthetic quality of architecture; for beauty is not an abstract self-existence quite independent of the *fitness* of things. For example, the Parthenon in marble is beautiful. Would it be equally beautiful in iron? Nay, could anything more ghastly or repulsive as a building be conceived than the Parthenon in iron? Proportion, as properly understood, is proportion of strength to duty. Proportion is not the only factor of fitness, but it is a chief factor; and architects who make themselves thoroughly conversant with the principles taught in Mr. Twelvetrees' book will be all the better enabled to introduce the beauty of proportion into their modern designs in steel. A steel bar of a building may be in itself as ungracious to the eye as the bare bone of a human figure. Still, as the proportions and fitness every way of the bones are main factors of the beauty of the human form; so the excellent designing and scientific adjustment of the steel members of a building (though rightly cased and covered, not only for beauty, but as protection from rust and fire) may go far to determine its aesthetic quality.

A keener perception of this deeply influential relation between science and beauty might well induce modern architects to study the work under notice as a byway, if not a highway, to the beautiful. The earlier portion of Mr. Twelvetrees' book gives a very lucid, though necessarily elementary insight into those processes of iron and steel manufacture which every architect should know at least this much about. The descriptive passages are so plain that readers who have never visited ironworks will understand them; though, of course, those who have visited ironworks will realise the facts more vividly. In that portion of the book which deals expressly with the science of stress and strain, the author wisely minimises as far as practicable mere formulæ and mathematical expressions; and he entirely excludes from his pages expressions of the *calculus*, which would have proved stumbling-blocks rather than aids to the bulk of his readers. At the same time, to one who can read between the lines, the self-restraint of the author is here and there evident in his purposely leaving certain coefficients unexplained, because their elucidation would involve a higher range of mathematics than the limits of the book admit of; these few cases are, however, very exceptional, as nearly all the coefficients and formulæ used in the book are explained with an extreme perspicuity which

renders the book specially valuable to those students who are not content with acquiring mere formulae parrot-wise, but who desire to make themselves intimate with the fundamental principles involved in the formulae.

Of course, in a book of this kind there must be old as well as new matter. The old matter, however, is so admirably elucidated by Mr. Twelvetrees that it is a most instructive as well as pleasurable exercise to read his lessons and demonstrations. But there is in the book also not a little that is *new*: especially the section which teaches the analysis of bending moments of beams; wherein the author shows that the common method of estimating the required strength by "the greatest bending moment" due to a regular load does not necessarily provide strength enough to meet cases of irregular loading such as may and do occur in practice.

Another very valuable section is where the author demonstrates the unreliability of the published girder-sheets issued by merchants and manufacturers; his warning on this point is very necessary to prevent disagreeable surprises.

The author's treatment of the strength of joints in iron and steel structures is very extended. But he deals rather too cursorily with the extremely important details of jointing columns superimposed on columns, and steel joists crossing the same. There are ways of obtaining vertical continuity of column, and at the same time horizontal continuity of joint, at such points which the author does not wait to explore.

On page 193, lines 16 and 18 from top, the word *beam* is twice used with a somewhat confusing effect, as the word *cantilever* is what the author means.

On page 193, 9th line from top, if after the "*free end*" the words were added, *i.e. from the point of application of the load*, the principle involved would be rendered more obvious to the student.

On page 195, 15th line from top, the expression *M* should be changed to *M_x*.

Although the author's treatment of the subject of bending beams is an advance on the usual textbook treatment, he does not deal with the bending as a dynamical question, which it really is; and therefore his teaching also, though very useful so far as it goes, is really superficial after all. A beam cannot bend without moving, and any future writer who finally evolves a fully satisfactory theory must not fail to take the motion into proper account.

On page 213 the author uses rather peculiar language when he says, "Some beams, chiefly those of solid rectangular section, behave in an unreasonable manner when exposed to transverse stress." He here recognises the "human nature" of the material in having a will of its own, and not behaving according to the theory which is sought to be imposed on it.

In this connection the author might have pointed out at least one particular in which commonly applied theory is greatly at fault—viz. in assuming that the tensional or compressional strength of material varies simply as its sectional area. Seeing that this untrue assumption underlies the whole of the theories which the author quotes when he accuses the beam of unreason, one feels ready to lay odds on the sanity of the beam rather than on that of the author!

Taking Mr. Twelvetrees' book as it stands, it must be regarded as a very excellent digest of accepted rules of practice, which is likely to prove a standard work running into many future editions. When a man imagines that the few facts which he has gathered from the fringes of physical science constitute the whole law and gospel of any section of knowledge, the enemies of such a man would urge him to write a book. That Mr. Twelvetrees is far removed from such a condition of mind is evidenced throughout his pages by repeated signs of consciousness on his part that he is leaving unsaid much that is well known, more that is not so well known, and yet infinitely more that is unknown though discoverable. There can be no finality in structural science, and any new book which fails to recognise this would be quite undeserving of notice. This, however, is certainly not the failing of Mr. Twelvetrees' book, which indicates on every page its title to a grateful welcome by the architectural profession, which sorely needed it.

Sunderland.

FRANK CAWS.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1900-1901, held Monday, 21st January 1901, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 32 Fellows (including thirteen members of the Council), 37 Associates (including one member of the Council), one Hon. Associate, and visitors, the Minutes of the Meeting held 7th January 1901 [p. 116 *ante*] were taken as read and signed as correct.

The decease was announced of John Burnet, *Fellow* of Glasgow; and on the motion of the Hon. Secretary it was resolved that a message of sympathy and condolence with his relatives be conveyed to them from the Institute.

The following members attending for the first time since their election were formally admitted and signed the respective Registers—viz. Charles Edward Mallows, *Fellow* (Bedford); Charles Archibald Daubney, *Associate*.

The Secretary having read the Deed of Award of the Prizes and Studentships 1901, made by the Council under the Common Seal [p. 129], the sealed envelopes bearing the mottoes of the successful designs and drawings were opened, and the names of the authors declared [see DEED OF AWARD].

Mr. J. J. Stevenson, F.S.A. [F.], having read a Paper on THE DIFFICULTIES AND HINDRANCES IN PRODUCING GOOD MODERN ARCHITECTURE, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

